

Notice of Allowability

Application No.

10/630,181

Examiner

Sathyanarayan Pannala

Applicant(s)

KISLEY, RICHARD VICTOR

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/3/2007.
2. ☒ The allowed claim(s) is/are 1-5, 7-8, 10-11, 14-29 and rembered as 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

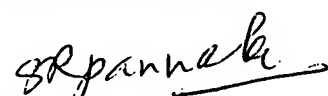
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


Sathyanarayan Pannala
Primary Examiner

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/3/2007 has been entered.
2. Applicant's Amendment filed on 10/3/2007 has been entered with amended claims 1-3, 10-11, 14-18, 20-23 and 30. In this Office Action, claims 1-5, 7-8, 10-11, 14-30 are pending.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Brian Kunzler on 1/4/2008.

Claims:

Claim 16. (Currently Amended) An apparatus for asynchronous file-based replication of a hierarchically-indexed data store, the apparatus comprising:

- a hierarchically-indexed data store operable on a CPU
- means for asynchronously communicating data contained within file regions that have changed to a replication target as indicated by a first-in-memory block map;
- a file system driver configured to monitor writes operations to the hierarchically-indexed data store and track file regions that have changed since a first point-in-time replication instance by updating block status indicators in a second-memory block map;
- means for clearing the first in-memory block;
- the file system driver further configured to update block status indicators in the first in-memory block map instead of the second in-memory block map in response to a second point-in-time replication instance; and
- means for asynchronously communicating data contained within file regions that have changed to the replication target as indicated by the second in-memory block map instead of the first in-memory block map in response to the second point-in-time replication instance, wherein changes to the file regions occur in a written order and asynchronously communicating data occurs in an order that is independent of the written order.

Claim 30. (Cancelled).

Reasons for allowance

5. The following is an examiner's statement of reasons for allowance:

- Prior art of record does not appear to teach or suggest or render obvious the claimed limitations in combination with the specific added limitations as recited in independent claims 1, 14, 16, 18 and 21. The prior art of record fails to teach or suggest in combination of claimed elements including "tracking module comprising a file system driver to monitor write operations" and "replication module to access second memory block to replicate hierarchically structured data" as recited in independent claims 1, 14, 16, 18 and 21.
- Applicant authorized for Examiner's Amendment to amend claim 16 and to cancel claim 30 to overcome non-statutory subject matter, see Interview summary for details.
- Federwisch et al. (US Patent 7,039,663) teaches a system and method for inserting checkpoints into a data stream and for restarting an synchronous transmission of a data stream from a source file system to a destination file system is provided. The data stream can be a set of changes between a base snapshot and incremental snapshot of the source file system for update of a replicated file system on the destination.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sathyanarayan Pannala whose telephone number is (571) 272-4115. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "SR Pannala", with a long horizontal line extending from the end of the signature.

Sathyanarayan Pannala
Primary Examiner

srp
December 21, 2007